

CLAIMS

1. A telecommunication hybrid circuit adapted to interface a line driver and a telecommunication line, said telecommunication hybrid circuit having first (LD1) and second (LD2) driver terminals connected to said line driver and first (TL1) and second (TL2) telecommunication terminals connected to said telecommunication line, said telecommunication hybrid circuit further comprising:
  - a first series impedance (R1, Z1) connected between said first driver terminal (LD1) and said first telecommunication terminal (TL1);
  - a second series impedance (R2, Z2) connected between said second driver terminal (LD2) and said second telecommunication terminal (TL2);
  - a first cross-coupled impedance (R3, R4) connected between said first driver terminal (LD1) and said second telecommunication terminal (TL2); and
  - a second cross-coupled impedance (R5, R6) connected between said second driver terminal (LD2) and said first telecommunication terminal (TL1),  
characterized in that each of said first (R1, Z1) and second (R2, Z2) series impedances includes a device (Z1; Z2) having a frequency dependant impedance.

2. The telecommunication hybrid circuit according to claim 1, characterized in that said telecommunication hybrid circuit is adapted to receive signals from and to transmit signals to said telecommunication line (TL1, TL2),  
in that the frequencies of the received signals are in a receive frequency band and the frequencies of the transmitted signals are in a transmit frequency band, said transmit frequency band being distinct from said receive frequency band,

and in that the frequency dependant device (Z1; Z2) has first impedance values for the frequencies of said receive frequency band and has second impedance values for the frequencies said transmit frequency band, said second impedance values being different from  
5 said first impedance values.

3. The telecommunication hybrid circuit according to claim 2,  
characterized in that said first impedance values for the frequencies of  
said receive frequency band are relatively high, while said second  
10 impedance values for the frequencies said transmit frequency band are  
relatively low.

4. The telecommunication hybrid circuit according to claim 1,  
characterized in that said telecommunication hybrid circuit is adapted  
15 to operate according to the Asymmetric Digital Subscriber Line [ADSL]  
protocol.

5. The telecommunication hybrid circuit according to claim 1,  
characterized in that said first series impedance (R1, Z1) comprises a  
20 first frequency dependant device (Z1) connected in series with a first  
resistor (R1), while said second series impedance (R2, Z2) comprises a  
second frequency dependant device (Z2) connected in series with a  
second resistor (R2).

25 6. The telecommunication hybrid circuit according to claim 5,  
characterized in that said first resistor (R1) is substantially identical  
to said second resistor (R2), and in that said first frequency dependant  
device (Z1) is substantially identical to said second frequency  
dependant device (Z2).

7. The telecommunication hybrid circuit according to claim 1, characterized in that said first cross-coupled impedance (R3, R4) is substantially identical to said second cross-coupled impedance (R5, R6).

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8. The telecommunication hybrid circuit according to claim 1, characterized in that said first (R3, R4) and second (R5, R6) cross-coupled impedances each comprises the series connection of two resistors at the junction points of which receive terminals (Rx-, Rx+) 10 are provided.